SANTA CRUZ BIOTECHNOLOGY, INC.

EBV gp250/350 Envelope Protein (0221): sc-57724

BACKGROUND

Epstein-Barr virus (EBV), also designated human herpesvirus 4 (HHV-4), is a member of the herpesvirus family and is one of the most common human viruses. EBV infects B cells and, though often asymptomatic, it can cause infectious mononucleosis, a disease characterized by fatigue, fever, sore throat and muscle soreness. EBV binds to the cell surface receptor 2 (CR2) on human B cells using its major envelope glycoprotein 350 (gp350) and, as such, the EBV gp350 Envelope Protein, also designated the EBV envelope glycoprotein complex 250/350, is crucial in mediating the initial stages of EBV infection. The EBV gp350 Envelope Protein is expressed on virion envelope as well as EBV producer cells.

REFERENCES

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3. Khyatti, M., Patel, P.C., Stefanescu, I. and Menezes, J. 1991. Epstein-Barr virus (EBV) glycoprotein gp350 expressed on transfected cells resistant to natural killer cell activity serves as a target antigen for EBV-specific antibody-dependent cellular cytotoxicity. J. Virol. 65: 996-1001.
4. D'Addario, M., Ahmad, A., Xu, J.W. and Menezes, J. 1999. Epstein-Barr virus envelope glycoprotein gp350 induces NFκB activation and IL-1β synthesis in human monocytes-macrophages involving PKC and PI3-K. FASEB J. 13: 2203-2213.
5. D'Addario, M., Ahmad, A., Morgan, A. and Menezes, J. 2000. Binding of the Epstein-Barr virus major envelope glycoprotein gp350 results in the upregulation of the TNFα gene expression in monocytic cells via NFκB involving PKC, PI3-K and tyrosine kinases. J. Mol. Biol. 298: 765-778.
6. Adachi, H., Saito, I., Horiuchi, M., Ishii, J., Nagata, Y., Mizuno, F., Nakamura, H., Yagyu, H., Takahashi, K. and Matsuoka, T. 2001. Infection of human lung fibroblasts with Epstein-Barr virus causes increased IL-1β and bFGF production. Exp. Lung Res. 27: 157-171.
7. Maruo, S., Yang, L. and Takada, K. 2001. Roles of Epstein-Barr virus glycoproteins gp350 and gp25 in the infection of human epithelial cells. J. Gen. Virol. 82: 2373-2383.
8. Prota, A.E., Sage, D.R., Stehle, T. and Fingeroth, J.D. 2002. The crystal structure of human CD21: implications for Epstein-Barr virus and C3d binding. Proc. Natl. Acad. Sci. USA 99: 10641-10646.

SOURCE

EBV gp250/350 Envelope Protein (0221) is a mouse monoclonal antibody raised against Epstein-Barr virus infected cells.

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

EBV gp250/350 Envelope Protein (0221) is recommended for detection of EBV gp250/350 Envelope Protein of Epstein-Barr virus origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Molecular Weight of EBV gp250/350 Envelope Protein: 94 kDa.

SELECT PRODUCT CITATIONS

1. Zheng, Y., Zhang, W., Ye, Q., Zhou, Y., Xiong, W., He, W., Deng, M., Zhou, M., Guo, X., Chen, P., Fan, S., Liu, X., Wang, Z., Li, X., Ma, J. and Li, G. 2012. Inhibition of Epstein-Barr virus infection by lactoferrin. J. Innate Immun. 4: 387-398.
2. Gandhi, J., Gaur, N., Khera, L., Kaul, R. and Robertson, E.S. 2015. COX-2 induces lytic reactivation of EBV through PGE2 by modulating the EP receptor signaling pathway. Virology 484: 1-14.
3. Caves, E.A., Cook, S.A., Lee, N., Stoltz, D., Watkins, S. and Shair, K.H.Y. 2018. Air-liquid interface method to study Epstein-Barr virus pathogenesis in nasopharyngeal epithelial cells. mSphere 3: e00152-18.
4. Lee, J., Kosowicz, J.G., Hayward, S.D., Desai, P., Stone, J., Lee, J.M., Liu, J.O. and Ambinder, R.F. 2019. Pharmacologic activation of lytic Epstein-Barr virus gene expression without virion production. J. Virol. 93: e00998-19.
5. Lange, P.T. and Damania, B. 2023. Epstein-Barr virus-positive lymphomas exploit ectonucleotidase activity to limit Immune responses and prevent cell death. mBio. E-published.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.